UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,321	01/09/2001	Erik Andersen	42390P8515	5490

8791	7590	07/23/2004

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER
PEZZLO, JOHN

ART UNIT	PAPER NUMBER
2662	5

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-17* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

I.   Claims 6 and 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1.   Regarding claim 6 – Claim is indefinite, it is not clear if one channel transmits at 625 mega bits per second or twenty channels transmit at 625 mega bits per second. The use of the word capable renders the claim indefinite, it is not clear what the actual transmission data rate is?

2.   Regarding claim 11 – Claim 11 is confusing, since the transmitter has segmented the large cell in a plurality of smaller cells the control information from the large cell was not transmitted to the receiver, (unless send as part of the control information in the smaller cells). It would appear, that the receiver, needs to utilize the information in the control bits in the plurality of the smaller cells to re-construct the larger cell. (Which is done in the Ethernet protocol.)

3.   Regarding claim 12 – Line 8, states "via a m bit by m bit crossbar buffer". It is not clear what is "a m bit by m bit crossbar buffer" and which switch is utilizing such a thing.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
sale in this country, more than one year prior to the date of application for patent in the United States.

II.   Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by

Szczepanck (US 5,321,819).

1.   Regarding claim 1 – Szczepanck discloses a computer network, which includes a first

circuit and a second circuit (callout 238 in Figure 6), which communicate over a serial

communication link (Ethernet), refer to Figures 1 and 6 and column 2 line 54 to column 3 line

20.

Szczepanck discloses a first interface (callout 232 in Figure 6) coupled to the first circuit

to transmit a data cell of n bits (Ethernet packet) in response to a first in first out protocol, the

memory for holding data operates on sending packets in a FIFO protocol, refer to Figure 4a and

column 11 lines 30 to 45 and column 13 lines 45 to 65.

Szczepanck discloses a second interface (callout 232 in Figure 6) coupled to the second

circuit to receive the data cell of n bits (Ethernet packet) in response to the first in first out

protocol, the memory for holding data operates on receiving packets in a FIFO protocol, refer to

Figure 4a and column 7 lines 44 to 59 and column 11 lines 30 to 45 and column 13 lines 45 to

65.

2.   Regarding claims 4 and 5 – Szczepanck discloses that CRC bits (error correcting bits) are

added to the data bits as part of the Ethernet frame by the transmitter, refer to Figures 3a and 3b

(frame check sequence) which are used by the receiver to determine if the Ethernet frame has

been corrupted by the serial communication channel, refer to column 7 lines 29 to 43 and column

10 lines 4 to 13.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

III.   Claims 2, 3, and 6-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Szczepanck (same as above) in view of Stallings, "Local & Metropolitan Area Networks", Fifth

Edition, 1997, Prentice-Hall, Page 137 hereinafter Stallings.

1.   Regarding claims 2, 3, 8, 13, and 17 - Szczepanck discloses a computer network, which

includes a first circuit and a second circuit (callout 238 in Figure 6), which communicate over a

serial communication link (Ethernet), refer to Figures 1 and 6 and column 2 line 54 to column 3 line 20.

Szczepanck discloses transmitting Ethernet frames which comprises a packet size between 64 and 1518 bytes, refer to Figures 3a and 3b and column 10 lines 50 to 68.

Szczepanck does not expressly disclose dividing a data cell into smaller size packets prior to transmission and recombining the packets at the receiver into the data cell.

Stallings discloses the process of segmentation, which comprises dividing the frames into smaller size frames for transmission, refer to page 137, maximum frame sizes.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide for segmentation in the system of Szczepanck in order to allow large files (greater than 1518 bytes) to be transmitted over the Ethernet serial communication links. The suggestion/motivation for doing so would have been that Szczepanck discloses a memory interface and memory for holding data to be transmitted and data that was received over the serial link, the memory can hold data which is larger than the Ethernet frame size, refer to column13 lines 45 to 68 and column 14 lines 1 to 25, which allows data packets to be chained together to make larger packets or data files. The benefit being that larger data files or communication between systems with different size packets can be accommodated.

2.   Regarding claim 14 – Szczepanck discloses appending a plurality of control and error correcting code bits to the data cell, refer to Figures 3a and 3b and column 9 line 15 to column 11 line 13.

3.   Regarding claims 15 and 16 – Szczepanck discloses a front end circuit for interfacing to

an Ethernet physical layer, refer to Figures 6 and 7. Szczepanck discloses AMD AM7992B chip

device and any one of many commercially available chips which perform differential encoding

and decoding as show in Figure 7, RX+, RX-, TX+, TX-, callout 256 in Figure 7, pins 22, 21, 14,

and 13 respectively, refer to column 43 lines 47 to 67.

4.   Regarding claim 6 – Szczepanck discloses an Ethernet network, which communicates

using serial links, refer to Figures 1 and 6 and column 1 lines 28 to 64.

Szczepanck does not expressly disclose the serial communications comprises twenty

serial channels capable of transmitting 625 million bits a second.

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to provide for multiple interfaces in order to accommodate higher data rates and provide

service for multiple users to allow multitasking operations. The benefit being that the

communication industry is striving for higher data rates to accommodate faster transfers and

enable more users access to the channel.

5.   Regarding claim 12 - Szczepanck discloses a computer network, which includes a first

circuit and a second circuit (callout 238 in Figure 6), which communicate over a serial

communication link (Ethernet), refer to Figures 1 and 6 and column 2 line 54 to column 3 line

20.

Szczepanck discloses a first interface (callout 232 in Figure 6) coupled to the first circuit

to transmit a data cell of n bits (Ethernet packet) in response to a first in first out protocol, the

memory for holding data operates on sending packets in a FIFO protocol, refer to Figure 4a and column 7 lines 44 to 59 and column 11 lines 30 to 45 and column 13 lines 45 to 65.

Szczepanck does not expressly disclose a first network switch communicating to a second network switch via a m bit by m bit crossbar buffer in response to a first in first out protocol.

Stallings discloses the use of routers (switches) in LAN networks wherein routers (switches) have m x m crossbars for switching packets in the network, refer to page 137, routers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide serial communication between m x m crossbar switches (routers) in a LAN network in order to extend area coverage for the hosts (computer users). The suggestion/motivation for doing so would have been that Szczepanck discloses hosts communicating over Ethernet serial links utilizing a FIFO buffer memory configuration and providing routers (m x m crossbar switches) in the network will allow the hosts access to more users in a wider network. The benefit being a larger coverage area enabling more users to communicate.

6.   Regarding claim 7 - Szczepanck discloses a computer network, which includes a first circuit and a second circuit (callout 238 in Figure 6), which communicate over a serial communication link (Ethernet), refer to Figures 1 and 6 and column 2 line 54 to column 3 line 20.

Szczepanck discloses appending a plurality of control and error correcting code bits to the data cell, refer to Figures 3a and 3b and column 9 line 15 to column 11 line 13.

Szczepanck discloses transmitting Ethernet frames which comprises a packet size

between 64 and 1518 bytes, refer to Figures 3a and 3b and column 10 lines 50 to 68.

Szczepanck does not expressly disclose dividing a data cell into smaller size packets prior

to transmission and recombining the packets at the receiver into the data cell.

Stallings discloses the process of segmentation, which comprises dividing the frames into

smaller size frames for transmission, refer to page 137, maximum frame sizes.

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to provide for segmentation in the system of Szczepanck in order to allow large files

(greater than 1518 bytes) to be transmitted over the Ethernet serial communication links. The

suggestion/motivation for doing so would have been that Szczepanck discloses a memory

interface and memory for holding data to be transmitted and data that was received over the

serial link, the memory can hold data which is larger than the Ethernet frame size, refer to

column13 lines 45 to 68 and column 14 lines 1 to 25, which allows data packets to be chained

together to make larger packets or data files. The benefit being that larger data files or

communication between systems with different size packets can be accommodated.

7.   Regarding claim 9 – Szczepanck discloses a resync operation if the CSMA Ethernet

network detects a collision on the LAN, refer to Figures 3b and 4b and column 10 lines 22 to 50

and column 12 lines 48 to 68 and column 13 lines 1 to 5 and column 20 lines 42 to 65.

8.   Regarding claims 10 and 11 – Szczepanck discloses utilizing Ethernet protocol for

sending serial communication between hosts wherein the Ethernet frame comprises error

correcting codes and control bits, refer to Figures 3a and 3b and column 9 line 15 to column 11 line 13.

Szczepanck does not expressly disclose aligning the data cells in response to the error correcting codes (claim 10) and re-converting the plurality of data cells of less than n bits to the data cell of n bits utilizing the control bits from the data cells of less than n bits.

Stallings teaches segmentation (see claim 8 above) and the Ethernet protocol utilizes information in the LLC layer to re-construct files from received segmented packets.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the error control information and control information to realign and re-construct the larger cell from the plurality of smaller cells. The error control information would be used to correct bad received smaller cells or ask for a re-transmission of a particular small cell and control information would be used to concatenate smaller cells into the larger cell. The suggestion/motivation for doing so would have been that Szezcpanck discloses the use of the Ethernet protocol, which provides for segmentation and reassembly through the use of control header information and the use of CRC header information to detect transmission errors. The benefit being that that larger data files or communication between systems with different size packets can be accommodated.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1.   Cantwell et al. (US 6,493,346 B1) discloses a system for providing conversion of TDM-based frame relay data in a cross-connect matrix to and from ATM data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (703) 306-5420. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Any response to this action should be mailed to:

     Commissioner of Patents and Trademarks

     Washington, D.C.

or faxed to:

     (703) 872-9306

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:

     Receptionist (Sixth floor)

     Crystal Park 2

     2121 Crystal Drive

     Arlington, VA.

John Pezzlo

13 July 2004

JOHN PEZZLO
PRIMARY EXAMINER